

PENDING CLAIMS  
Application No. 10/466,166  
Attorney Docket No. 05825.1228  
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1. Composition comprising, in a physiologically acceptable medium containing a fatty phase:
  - (i) a first polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with hydrocarbon-based repeating units containing at least one hetero atom, and optionally b) optionally functionalized pendent and/or terminal fatty chains containing from 6 to 120 carbon atoms, which are linked to these hydrocarbon-based units,
  - (ii) an anionic film-forming polymer,
  - (iii) a cationic film-forming polymer,
- 10 15 the said anionic and cationic film-forming polymers being different from the said first polymer.
- 20 2. Composition according to Claim 1, characterized in that the average molar mass of the first polymer is less than 50 000.
- 20 3. Composition according to Claim 1 or 2, characterized in that the units containing a hetero atom of the first polymer are amide groups.
- 25 4. Composition according to any one of the preceding claims, characterized in that the fatty chains of the auxiliary polymer represent from 40% to 98% of the total number of units containing a hetero atom and of fatty chains.
- 30 5. Composition according to any one of the preceding claims, characterized in that the fatty chains of the first polymer represent from 50% to 95% of the total number of units containing a hetero atom and of fatty chains.
- 30 6. Composition according to any one of the preceding claims, characterized in that the pendent fatty chains of the first polymer are linked directly to at least one of the said hetero atoms.

7. Composition containing, in a cosmetically acceptable medium:

- (i) a first polyamide polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with amide repeating units and b) optionally at least one optionally functionalized pendent fatty chain and/or at least one optionally functionalized terminal chain, containing from 6 to 120 carbon atoms, which are linked to these amide units,
- 5 - (ii) an anionic film-forming polymer,
- (iii) a cationic film-forming polymer,

10 the said anionic and cationic film-forming polymers being different from the said first polymer.

8. Composition according to Claim 6, characterized in that the fatty chains of the first polymer represent from 40% to 98% of the total number of amide units and of fatty chains.

15 9. Composition according to any one of Claims 6 to 8, characterized in that the fatty chains of the first polymer represent from 50% to 95% of the total number of amide units and of fatty chains.

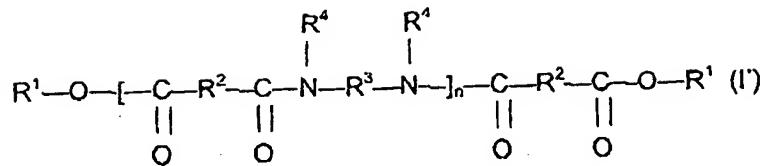
10. Composition according to any one of Claims 6 to 9, characterized in that the pendent fatty chains of the first polymer are linked directly to at least one of the nitrogen atoms of the amide units.

20 11. Composition according to any one of the preceding claims, characterized in that the weight-average molecular mass of the first polymer ranges from 2000 to 20 000 and better still from 2000 to 10 000.

12. Composition according to any one of the preceding 25 claims, characterized in that the terminal fatty chains of the first polymer are linked to the skeleton via ester groups.

13. Composition according to any one of the preceding claims, characterized in that the fatty chains of the auxiliary polymer contain from 12 to 68 carbon atoms.

30 14. Composition according to any one of the preceding claims, characterized in that the first polymer is chosen from the polymers of formula (I') below, and mixtures thereof:



in which n denotes a number of amide units such that the number of ester groups represents from 10% to 50% of the total number of ester and amide groups; R<sup>1</sup> is, independently in each case, an alkyl or alkenyl group containing at least 4 carbon atoms; R<sup>2</sup> represents, independently in each case, a C<sub>4</sub> to C<sub>42</sub> hydrocarbon-based group, on condition that at least 50% of the groups R<sup>2</sup> represent a C<sub>30</sub> to C<sub>42</sub> hydrocarbon-based group; R<sup>3</sup> represents, independently in each case, an organic group containing at least 2 carbon atoms, hydrogen atoms and optionally one or more oxygen or nitrogen atoms; and R<sup>4</sup> represents, independently in each case, a hydrogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group or a direct bond to R<sup>3</sup> or to another R<sup>4</sup>, such that the nitrogen atom to which R<sup>3</sup> and R<sup>4</sup> are both attached forms part of a heterocyclic structure defined by R<sup>4</sup>-N-R<sup>3</sup>, with at least 50% of the groups R<sup>4</sup> representing a hydrogen atom.

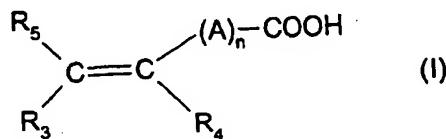
15. Composition according to Claim 14, characterized in that R<sup>1</sup> is a C<sub>12</sub> to C<sub>22</sub> alkyl group.

16. Composition according to Claim 14 or 15, characterized in that the radicals R<sup>2</sup> are groups containing from 30 to 42 carbon atoms.

17. Composition according to any one of the preceding claims, characterized in that the first polymer is present in a content ranging from 0.01% to 10% by weight, preferably ranging from 0.05% to 5% by weight and better still ranging from 0.1% to 3% by weight, relative to the total weight of the composition.

18. Composition according to any one of the preceding claims, characterized in that the anionic film-forming polymer is chosen from:

- polymers comprising carboxylic units derived from unsaturated monocarboxylic or dicarboxylic acid monomers of formula (I):



5 in which n is an integer from 0 to 10, A denotes a methylene group, optionally connected to the carbon atom of the unsaturated group or to the neighbouring methylene group when n is greater than 1 via a hetero atom such as oxygen or sulphur, R<sub>5</sub> denotes a hydrogen atom or a phenyl or

10 benzyl group, R<sub>3</sub> denotes a hydrogen atom or a lower alkyl or carboxyl group, and R<sub>4</sub> denotes a hydrogen atom, a lower alkyl group or a -CH<sub>2</sub>-COOH, phenyl or benzyl group,

- polymers comprising units derived from sulphonic acid, such as vinylsulphonic, styrenesulphonic and acrylamidoalkylsulphonic units, and

15 sulphonic polyesters, and

- mixtures thereof.

19. Composition according to any one of the preceding characterized in that the anionic film-forming polymer is chosen

from:

20 A) homo- or copolymers of acrylic or methacrylic acid or salts thereof, the sodium salts of copolymers of acrylic acid and of acrylamide, and the sodium salts of polyhydroxycarboxylic acids;

B) copolymers of acrylic or methacrylic acids with a monoethylenic monomer such as ethylene, styrene, vinyl esters and acrylic or methacrylic acid esters, optionally grafted onto a polyalkylene glycol such as polyethylene glycol; copolymers of this type comprising in their chain an optionally N-alkylated and/or hydroxyalkylated acrylamide unit, copolymers of acrylic acid and of C<sub>1</sub>-C<sub>4</sub> alkyl methacrylate and terpolymers of vinylpyrrolidone, of acrylic acid and of C<sub>1</sub>-C<sub>20</sub> alkyl methacrylate;

25

C) copolymers derived from crotonic acid, such as those whose chain comprises vinyl acetate or propionate units and optionally other monomers such as allylic or methallylic esters, vinyl ether or vinyl ester of a saturated, linear or branched carboxylic acid containing a long hydrocarbon-based chain such as those comprising at least 5 carbon atoms, it being possible for these polymers to be optionally grafted;

D) polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives, acrylic acid and esters thereof; copolymers of maleic, citraconic or itaconic anhydrides and of an allylic or methallylic ester optionally comprising an acrylamide, methacrylamide,  $\alpha$ -olefin, acrylic or methacrylic ester, acrylic or methacrylic acid or vinylpyrrolidone group in their chain, the anhydride functions are monoesterified or monoamidated;

E) polyacrylamides comprising carboxylate groups;

F) deoxyribonucleic acid;

G) copolymers of at least one dicarboxylic acid, of at least one diol and of at least one difunctional aromatic monomer bearing a group  $-SO_3M$  with M representing a hydrogen atom, an ammonium ion  $NH_4^+$  or a metal ion; - and mixtures thereof.

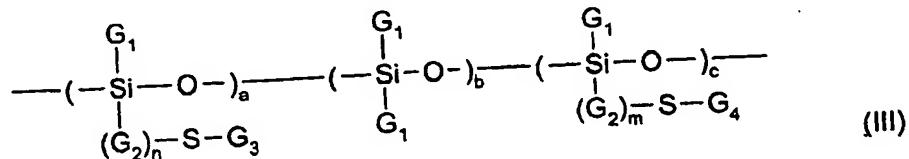
20. Composition according to any one of the preceding claims, characterized in that the anionic film-forming polymer is chosen from:

- acrylic or methacrylic acid homopolymers;
- acrylic acid copolymers such as the acrylic acid/ethyl acrylate/N-tert-butylacrylamide terpolymer;
- copolymers derived from crotonic acid, such as vinyl acetate/vinyl tert-butylbenzoate/crotonic acid terpolymers and crotonic acid/vinyl acetate/vinyl neododecanoate terpolymers;
- polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives or acrylic acid and esters thereof, such as methyl vinyl ether/monoesterified maleic anhydride copolymers;

- copolymers of methacrylic acid and of methyl methacrylate;
- copolymers of methacrylic acid and of ethyl acrylate;
- terpolymers of vinylpyrrolidone/acrylic acid/lauryl methacrylate;
- vinyl acetate/crotonic acid copolymers;
- 5 - vinyl acetate/crotonic acid/polyethylene glycol terpolymers;
- sulphopolyesters obtained by condensation of diethylene glycol, cyclohexanedimethanol, isophthalic acid and sulphoisophthalic acid, and mixtures thereof.

21. Composition according to any one of the preceding  
 10 claims, characterized in that the anionic film-forming polymer is chosen from anionic polymers of grafted silicone type comprising a polysiloxane portion and a portion consisting of a non-silicone organic chain, one of the two portions constituting the main chain of the polymer, the other being grafted onto the said main chain.

22. Composition according to Claim 21, characterized in  
 15 that the grafted silicone polymer is chosen from silicone polymers whose structure comprises the unit of formula (III) below:



20 in which the radicals  $\text{G}_1$ , which may be identical or different, represent hydrogen or a  $\text{C}_1\text{-C}_{10}$  alkyl radical or alternatively a phenyl radical; the radicals  $\text{G}_2$ , which may be identical or different, represent a  $\text{C}_1\text{-C}_{10}$  alkylene group;  $\text{G}_3$  represents a polymer residue resulting from the  
 25 (homo)polymerization of at least one ethylenically unsaturated anionic monomer;  $\text{G}_4$  represents a polymer residue resulting from the (homo)polymerization of at least one ethylenically unsaturated hydrophobic monomer;  $\text{m}$  and  $\text{n}$  are equal to 0 or 1;  $\text{a}$  is an integer ranging from 0 to 50;  $\text{b}$  is an integer which can be between 10 and 350,  $\text{c}$  is an integer ranging

from 0 to 50; with the proviso that one of the parameters a and c is other than 0.

23. Composition according to Claim 22, characterized in that the unit of formula (III) has at least one of the following characteristics:

5            - the radicals  $G_1$  denote a  $C_1$ - $C_{10}$  alkyl radical;

          - n is non-zero and the radicals  $G_2$  represent a divalent  $C_1$ - $C_3$

radical;

          -  $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as an ethylenically

10    unsaturated carboxylic acid;

          -  $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as a  $C_1$ - $C_{10}$  alkyl (meth)acrylate.

24. Composition according to Claim 22 or 23,

15    characterized in that the unit of formula (III) simultaneously has the following characteristics:

          - the radicals  $G_1$  denote a methyl radical;

          - n is non-zero and the radicals  $G_2$  represent a

propylene radical;

20            -  $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least acrylic acid and/or methacrylic acid;

          -  $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least isobutyl or methyl (meth)acrylate.

25. Composition according to any one of the preceding

claims, characterized in that the cationic film-forming polymer is chosen from quaternary cellulose ether derivatives, copolymers of cellulose with a water-soluble quaternary ammonium monomer, cyclopolymers, cationic polysaccharides, cationic silicone polymers, quaternized or non-

quaternized vinylpyrrolidone-dialkylaminoalkyl acrylate or methacrylate

30    copolymers, quaternary polymers of vinylpyrrolidone and of vinylimidazole, and polyaminoamides, and mixtures thereof.

26. Composition according to any one of the preceding claims, characterized in that the anionic film-forming polymer is a poly(sodium methacrylate).

27. Composition according to any one of the preceding 5 claims, characterized in that the cationic film-forming polymer is a hydroxy(C<sub>1</sub>-C<sub>4</sub>)alkylcellulose comprising quaternary ammonium groups.

28. Composition according to any one of the preceding 10 claims, characterized in that the cationic film-forming polymer is present in a content ranging from 0.01% to 20% by weight, preferably from 0.01% to 15% by weight and even more preferentially from 0.05% to 5% by weight, relative to the total weight of the composition.

29. Composition according to any one of the preceding 15 claims, characterized in that the anionic film-forming polymer is present in a content ranging from 0.01% to 20% by weight, preferably from 0.05% to 15% by weight and even more preferentially from 0.1% to 7% by weight, relative to the total weight of the composition.

30. Composition according to any one of the preceding claims, characterized in that it also comprises a wax.

31. Composition according to Claim 30, characterized in 20 that the wax is chosen from the group formed by beeswax, lanolin wax, Chinese insect waxes, rice wax, carnauba wax, candelilla wax, ouricury wax, cork fibre wax, sugar cane wax, Japan wax, sumach wax, montan wax, microcrystalline waxes, paraffin waxes, ozokerites, ceresin wax, lignite wax, polyethylene waxes and the waxes obtained by Fisher-Tropsch synthesis, fatty acid esters of glycerides that are solid at 40°C, the waxes 25 obtained by catalytic hydrogenation of animal or plant oils containing linear or branched C<sub>8</sub>-C<sub>32</sub> fatty chains, silicone waxes and fluoro waxes, and mixtures thereof.

32. Composition according to Claim 30 or 31, 30 characterized in that the wax is present in a content ranging from 0.1% to 50% by weight, preferably from 0.5% to 40% by weight and better still from 1% to 30% by weight, relative to the total weight of the composition.

33. Composition according to any one of the preceding claims, characterized in that the fatty phase comprises at least one oil chosen from the group formed by hydrocarbon-based oils, fluoro oils and/or silicone oils of mineral, animal, plant or synthetic origin, alone or as a mixture.

5 34. Composition according to any one of the preceding claims, characterized in that the fatty phase comprises at least one volatile oil.

10 35. Composition according to any one of the preceding claims, characterized in that the fatty phase comprises a volatile oil chosen from hydrocarbon-based volatile oils containing from 8 to 16 carbon atoms.

15 36. Composition according to Claim 34 or 35, characterized in that the volatile oil is present in a content ranging from 0.1% to 98% by weight and preferably from 1% to 65% by weight, relative to the total weight of the composition.

20 37. Composition according to any one of the preceding claims, characterized in that the composition comprises an aqueous phase containing water or a mixture of water and of water-miscible organic solvent.

25 38. Composition according to any one of the preceding claims, characterized in that the composition contains at least one dyestuff.

39. Composition according to Claim 38, characterized in that the dyestuff is chosen from pigments, nacres, water-soluble dyes and liposoluble dyes, and mixtures thereof.

25 40. Composition according to Claim 38 or 39, characterized in that the dyestuff is present in a proportion of from 0.01% to 30% of the total weight of the composition.

30 41. Composition according to any one of the preceding claims, characterized in that the composition contains at least one additive chosen from surfactants, thickeners, antioxidants, fillers, preserving agents, fragrances, neutralizers and cosmetic or dermatological active agents, and mixtures thereof.

42. Composition according to any one of the preceding claims, characterized in that the composition is in the form of a mascara, a product for the eyebrows or a product for the hair.

43. Mascara comprising a composition according to any 5 one of Claims 1 to 41.

44. Non-therapeutic makeup or care process for keratin materials, especially keratin fibres, comprising the application to the keratin materials of a composition according to any one of the preceding claims.

45. Use of a composition according to any one of Claims 10 to 42, to obtain a deposit that adheres to keratin materials and/or to obtain a fast makeup result on keratin materials.

46. Use of a mascara according to Claim 43, to thicken the eyelashes.

47. Use of the combination of 15 - (i) a first polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with hydrocarbon-based repeating units containing at least one hetero atom, and optionally b) optionally functionalized pendent and/or terminal fatty chains containing from 6 to 120 carbon atoms, which are linked to these hydrocarbon-based 20 units,  
- (ii) an anionic film-forming polymer,  
- (iii) a cationic film-forming polymer,  
the said anionic and cationic film-forming polymers being different from the 25 said first polymer, in a makeup composition comprising a physiologically acceptable medium containing a fatty phase,  
to obtain a deposit that adheres to the keratin materials and/or a fast makeup result on keratin materials and/or to thicken the eyelashes.

48. Use according to Claim 47, characterized in that the average molar mass of the first polymer is less than 50 000.

49. Use according to Claim 47 or 48, characterized in that 30 the units containing a hetero atom of the first polymer are amide groups.

50. Use according to any one of Claims 47 to 49, characterized in that the fatty chains of the auxiliary polymer represent from 40% to 98% of the total number of units containing a hetero atom and of fatty chains.

5 51. Use according to any one of Claims 47 to 50, characterized in that the fatty chains of the first polymer represent from 50% to 95% of the total number of units containing a hetero atom and of fatty chains.

10 52. Use according to any one of Claims 47 to 51, characterized in that the pendent fatty chains of the first polymer are linked directly to at least one of the said hetero atoms.

15 53. Use of the combination of:  
- (i) a first polyamide polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with amide repeating units and b) optionally at least one optionally functionalized pendent fatty chain and/or at least one optionally functionalized terminal chain, containing from 6 to 120 carbon atoms, which are linked to these amide units,  
- (ii) an anionic film-forming polymer,  
- (iii) a cationic film-forming polymer,  
20 the said anionic and cationic film-forming polymers being different from the said first polymer,  
to obtain a deposit that adheres to the keratin materials and/or a fast makeup result on keratin materials and/or to thicken the eyelashes.

25 54. Use according to Claim 53, characterized in that the fatty chains of the first polymer represent from 40% to 98% of the total number of amide units and of fatty chains.

55. Use according to either of Claims 53 and 54, characterized in that the fatty chains of the first polymer represent from 50% to 95% of the total number of amide units and of fatty chains.

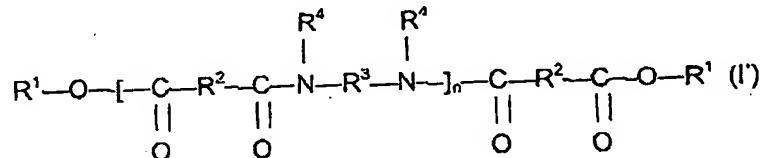
30 56. Use according to any one of Claims 53 to 55, characterized in that the pendent fatty chains of the first polymer are linked directly to at least one of the nitrogen atoms of the amide units.

57. Use according to any one of Claims 47 to 56, characterized in that the weight-average molecular mass of the first polymer ranges from 2000 to 20 000 and better still from 2000 to 10 000.

58. Use according to any one of Claims 47 to 57, 5 characterized in that the terminal fatty chains of the first polymer are linked to the skeleton via ester groups.

59. Use according to any one of Claims 47 to 58, characterized in that the fatty chains of the auxiliary polymer contain from 12 to 68 carbon atoms.

10 60. Use according to any one of Claims 47 to 59, characterized in that the first polymer is chosen from the polymers of formula (I') below, and mixtures thereof:



15 in which n denotes a number of amide units such that the number of ester groups represents from 10% to 50% of the total number of ester and amide groups; R<sup>1</sup> is, independently in each case, an alkyl or alkenyl group containing at least 4 carbon atoms; R<sup>2</sup> represents, independently in each case, a C<sub>4</sub> to C<sub>42</sub> hydrocarbon-based group, on condition that at least 50% of the groups R<sup>2</sup> represent a C<sub>30</sub> to C<sub>42</sub> hydrocarbon-based group; R<sup>3</sup> represents, independently in each case, an organic group containing at least 2 carbon atoms, hydrogen atoms and optionally one or more oxygen or nitrogen atoms; and R<sup>4</sup> represents, independently in each case, a hydrogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group or a direct bond to R<sup>3</sup> or to another R<sup>4</sup>, such that the nitrogen atom to which R<sup>3</sup> and R<sup>4</sup> are both attached forms part of a heterocyclic structure defined by R<sup>4</sup>-N-R<sup>3</sup>, with at least 50% of the groups R<sup>4</sup> representing a hydrogen atom.

61. Use according to Claim 60, characterized in that R<sup>1</sup> is a C<sub>12</sub> to C<sub>22</sub> alkyl group.

62. Use according to Claim 60 or 61, characterized in that the radicals R<sup>2</sup> are groups containing from 30 to 42 carbon atoms.

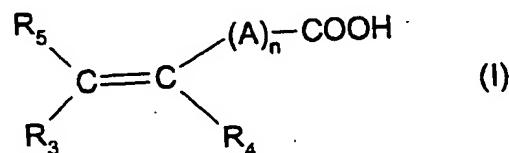
5 63. Use according to any one of Claims 47 to 62,

characterized in that the first polymer is present in the composition in a content ranging from 0.01% to 10% by weight, preferably ranging from 0.05% to 5% by weight and better still ranging from 0.1% to 3% by weight, relative to the total weight of the composition.

10 64. Use according to any one of Claims 47 to 63,

characterized in that the anionic film-forming polymer is chosen from:

- polymers comprising carboxylic units derived from unsaturated monocarboxylic or dicarboxylic acid monomers of formula (I):



15 in which n is an integer from 0 to 10, A denotes a methylene group, optionally connected to the carbon atom of the unsaturated group or to the neighbouring methylene group when n is greater than 1 via a hetero atom such as oxygen or sulphur, R<sub>5</sub> denotes a hydrogen atom or a phenyl or 20 benzyl group, R<sub>3</sub> denotes a hydrogen atom or a lower alkyl or carboxyl group, and R<sub>4</sub> denotes a hydrogen atom, a lower alkyl group or a -CH<sub>2</sub>-COOH, phenyl or benzyl group,

- polymers comprising units derived from sulphonic acid, such as vinylsulphonic, styrenesulphonic and acrylamidoalkylsulphonic units, and

25 sulphonate polyesters, and

- mixtures thereof.

65. Use according to any one of Claims 47 to 64, characterized in that the anionic film-forming polymer is chosen from:

A) homo- or copolymers of acrylic or methacrylic acid or salts thereof, the sodium salts of copolymers of acrylic acid and of acrylamide, and the sodium salts of polyhydroxycarboxylic acids;

B) copolymers of acrylic or methacrylic acids with a monoethylenic monomer such as ethylene, styrene, vinyl esters and acrylic or methacrylic acid esters, optionally grafted onto a polyalkylene glycol such as polyethylene glycol; copolymers of this type comprising in their chain an optionally N-alkylated and/or hydroxyalkylated acrylamide unit, copolymers of acrylic acid and of C<sub>1</sub>-C<sub>4</sub> alkyl methacrylate and terpolymers of vinylpyrrolidone, of acrylic acid and of C<sub>1</sub>-C<sub>20</sub> alkyl methacrylate;

5 C) copolymers derived from crotonic acid, such as those whose chain comprises vinyl acetate or propionate units and optionally other monomers such as allylic or methallylic esters, vinyl ether or vinyl ester of a saturated, linear or branched carboxylic acid containing a long hydrocarbon-based chain such as those comprising at least 5 carbon atoms, it being possible for these polymers to be optionally grafted;

10 D) polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives, acrylic acid and esters thereof; copolymers of maleic, citraconic or itaconic anhydrides and of an allylic or methallylic ester optionally comprising an acrylamide, methacrylamide,  $\alpha$ -olefin, acrylic or methacrylic ester, acrylic or methacrylic acid or vinylpyrrolidone group in their chain, the anhydride functions are monoesterified or monoamidated;

15 E) polyacrylamides comprising carboxylate groups;

F) deoxyribonucleic acid;

20 G) copolymers of at least one dicarboxylic acid, of at least one diol and of at least one difunctional aromatic monomer bearing a group  $-SO_3M$  with M representing a hydrogen atom, an ammonium ion NH<sub>4</sub><sup>+</sup> or a metal ion; - and mixtures thereof.

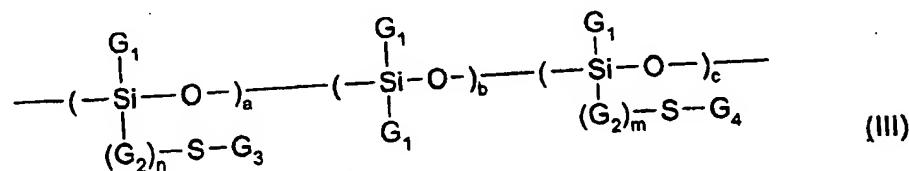
25 66. Use according to any one of Claims 47 to 65, characterized in that the anionic film-forming polymer is chosen from:

30 - acrylic or methacrylic acid homopolymers;

- acrylic acid copolymers such as the acrylic acid/ethyl acrylate/N-tert-butylacrylamide terpolymer;
- copolymers derived from crotonic acid, such as vinyl acetate/vinyl tert-butylbenzoate/crotonic acid terpolymers and crotonic acid/vinyl acetate/vinyl neododecanoate terpolymers;
- 5     - polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives or acrylic acid and esters thereof, such as methyl vinyl ether/monoesterified maleic anhydride copolymers;
- 10    - copolymers of methacrylic acid and of methyl methacrylate;
- copolymers of methacrylic acid and of ethyl acrylate;
- terpolymers of vinylpyrrolidone/acrylic acid/lauryl methacrylate;
- vinyl acetate/crotonic acid copolymers;
- vinyl acetate/crotonic acid/polyethylene glycol terpolymers;
- 15    - sulphopolyesters obtained by condensation of diethylene glycol, cyclohexanedimethanol, isophthalic acid and sulphoisophthalic acid, and mixtures thereof.

67. Use according to any one of Claims 47 to 66, characterized in that the anionic film-forming polymer is chosen from anionic polymers of grafted silicone type comprising a polysiloxane portion and a portion consisting of a non-silicone organic chain, one of the two portions constituting the main chain of the polymer, the other being grafted onto the said main chain.

68. Use according to Claim 67, characterized in that the grafted silicone polymer is chosen from silicone polymers whose structure 25 comprises the unit of formula (III) below:



in which the radicals  $G_1$ , which may be identical or different, represent hydrogen or a  $C_1-C_{10}$  alkyl radical or alternatively a phenyl radical; the radicals  $G_2$ , which may be identical or different, represent a  $C_1-C_{10}$  alkylene group;  $G_3$  represents a polymer residue resulting from the

5 (homo)polymerization of at least one ethylenically unsaturated anionic monomer;  $G_4$  represents a polymer residue resulting from the (homo)polymerization of at least one ethylenically unsaturated hydrophobic monomer;  $m$  and  $n$  are equal to 0 or 1;  $a$  is an integer ranging from 0 to 50;  $b$  is an integer which can be between 10 and 350,  $c$  is an integer ranging 10 from 0 to 50; with the proviso that one of the parameters  $a$  and  $c$  is other than 0.

69. Use according to Claim 68, characterized in that the

unit of formula (III) has at least one of the following characteristics:

15 - the radicals  $G_1$  denote a  $C_1-C_{10}$  alkyl radical;  
 -  $n$  is non-zero and the radicals  $G_2$  represent a divalent  $C_1-C_3$  radical;  
 -  $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as an ethylenically unsaturated carboxylic acid;  
 20 -  $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as a  $C_1-C_{10}$  alkyl (meth)acrylate.

70. Use according to Claim 68 or 69, characterized in that the unit of formula (III) simultaneously has the following characteristics:

25 - the radicals  $G_1$  denote a methyl radical;  
 -  $n$  is non-zero and the radicals  $G_2$  represent a propylene radical;  
 -  $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least acrylic acid and/or methacrylic acid;  
 30 -  $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least isobutyl or methyl (meth)acrylate.

71. Use according to any one of Claims 47 to 70, characterized in that the cationic film-forming polymer is chosen from quaternary cellulose ether derivatives, copolymers of cellulose with a water-soluble quaternary ammonium monomer, cyclopolymers, cationic polysaccharides, cationic silicone polymers, quaternized or non-quaternized vinylpyrrolidone-dialkylaminoalkyl acrylate or methacrylate copolymers, quaternary polymers of vinylpyrrolidone and of vinylimidazole, and polyaminoamides, and mixtures thereof.

5 72. Use according to any one of Claims 47 to 71, characterized in that the anionic film-forming polymer is a poly(sodium methacrylate).

10 73. Use according to any one of Claims 47 to 72, characterized in that the cationic film-forming polymer is a hydroxy(C<sub>1</sub>-C<sub>4</sub>)alkylcellulose comprising quaternary ammonium groups.

15 74. Use according to any one of Claims 47 to 73, characterized in that the cationic film-forming polymer is present in the composition in a content ranging from 0.01% to 20% by weight, preferably from 0.01% to 15% by weight and even more preferentially from 0.05% to 5% by weight, relative to the total weight of the composition.

20 75. Use according to any one of Claims 47 to 74, characterized in that the anionic film-forming polymer is present in the composition in a content ranging from 0.01% to 20% by weight, preferably from 0.05% to 15% by weight and even more preferentially from 0.1% to 7% by weight, relative to the total weight of the composition.

25 76. Use according to any one of Claims 47 to 75, characterized in that the composition comprises a wax.

77. Use according to Claim 76, characterized in that the wax is chosen from the group formed by beeswax, lanolin wax, Chinese insect waxes, rice wax, carnauba wax, candelilla wax, ouricury wax, cork fibre wax, sugar cane wax, Japan wax, sumach wax, montan wax, microcrystalline waxes, paraffin waxes, ozokerites, ceresin wax, lignite wax, polyethylene waxes and the waxes obtained by Fisher-Tropsch

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synthesis, fatty acid esters of glycerides that are solid at 40°C, the waxes obtained by catalytic hydrogenation of animal or plant oils containing linear or branched C<sub>8</sub>-C<sub>32</sub> fatty chains, silicone waxes and fluoro waxes, and mixtures thereof.

- 5        78. Use according to Claim 76 or 77, characterized in that the wax is present in a content ranging from 0.1% to 50% by weight, preferably from 0.5% to 40% by weight and better still from 1% to 30% by weight, relative to the total weight of the composition.
- 10      79. Use according to any one of Claims 47 to 78, characterized in that the fatty phase comprises at least one oil chosen from the group formed by hydrocarbon-based oils, fluoro oils and/or silicone oils of mineral, animal, plant or synthetic origin, alone or as a mixture.
- 15      80. Use according to any one of Claims 47 to 79, characterized in that the fatty phase comprises at least one volatile oil.
- 20      81. Use according to any one of Claims 45 to 80, characterized in that the fatty phase comprises a volatile oil chosen from hydrocarbon-based volatile oils containing from 8 to 16 carbon atoms.
- 25      82. Use according to Claim 80 or 81, characterized in that the volatile oil is present in a content ranging from 0.1% to 98% by weight and preferably from 1% to 65% by weight, relative to the total weight of the composition.
- 30      83. Use according to any one of Claims 47 to 82, characterized in that the composition comprises an aqueous phase containing water or a mixture of water and of water-miscible organic solvent.
- 35      84. Use according to any one of Claims 47 to 83, characterized in that the composition contains at least one additive chosen from dyestuffs, surfactants, thickeners, antioxidants, fillers, preserving agents, fragrances, neutralizers and cosmetic or dermatological active agents, and mixtures thereof.

85. Use according to any one of Claims 47 to 84, characterized in that the composition is in the form of a mascara, a product for the eyebrows or a product for the hair.

86. Cosmetic process for rapidly making up keratin materials, which consists in introducing, into a cosmetic makeup composition comprising a fatty phase:

- (i) a first polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with hydrocarbon-based repeating units containing at least one hetero atom, and optionally b) optionally functionalized pendent and/or terminal fatty chains containing from 6 to 120 carbon atoms, which are linked to these hydrocarbon-based units,
- (ii) an anionic film-forming polymer,
- (iii) a cationic film-forming polymer,

15 the said anionic and cationic film-forming polymers being different from the said first polymer.

87. Cosmetic process for increasing the adhesion and/or the rapid loading of a cosmetic makeup composition, which consists in introducing into the said composition containing a fatty phase:

- 20 - (i) a first polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with hydrocarbon-based repeating units containing at least one hetero atom, and optionally b) optionally functionalized pendent and/or terminal fatty chains containing from 6 to 120 carbon atoms, which are linked to these hydrocarbon-based units,
- (ii) an anionic film-forming polymer,
- (iii) a cationic film-forming polymer,

25 the said anionic and cationic film-forming polymers being different from the said first polymer.

88. Process according to Claim 86 or 87, characterized in that the average molar mass of the first polymer is less than 50 000.

89. Process according to any one of Claims 86 to 88, characterized in that the units containing a hetero atom of the first polymer are amide groups.

90. Process according to any one of Claims 86 to 89, 5 characterized in that the fatty chains represent from 40% to 98% and better still from 50% to 95% of the total number of units containing a hetero atom and of fatty chains.

91. Process according to any one of Claims 86 to 90, characterized in that the fatty chains represent from 50% to 95% of the total 10 number of units containing a hetero atom and of fatty chains.

92. Process according to any one of Claims 86 to 91, characterized in that the pendent fatty chains are linked directly to at least one of the said hetero atoms.

93. Cosmetic process for rapidly making up keratin 15 materials, which consists in introducing, into a cosmetic makeup composition comprising a fatty phase:

- (i) a first polyamide polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with amide repeating units and b) optionally at least one optionally functionalized pendent fatty chain and/or at least one optionally functionalized terminal chain, containing from 20 6 to 120 carbon atoms, which are linked to these amide units,
- (ii) an anionic film-forming polymer,
- (iii) a cationic film-forming polymer,

the said anionic and cationic film-forming polymers being different from the 25 said first polymer.

94. Cosmetic process for increasing the adhesion and/or the rapid loading of a cosmetic makeup composition, which consists in introducing into the said composition containing a fatty phase:

- (i) a first polyamide polymer with a weight-average molecular mass of less than 100 000, comprising a) a polymer skeleton with amide repeating units and b) optionally at least one optionally functionalized pendent fatty chain 30

and/or at least one optionally functionalized terminal chain, containing from 6 to 120 carbon atoms, which are linked to these amide units,

- (ii) an anionic film-forming polymer,
- (iii) a cationic film-forming polymer,

5 the said anionic and cationic film-forming polymers being different from the said first polymer.

95. Process according to Claim 93 or 94, characterized in that the fatty chains of the first polymer represent from 40% to 98% of the total number of amide units and of fatty chains.

10 96. Process according to any one of Claims 93 to 95, characterized in that the fatty chains of the first polymer represent from 50% to 95% of the total number of amide units and of fatty chains.

15 97. Process according to any one of Claims 93 to 96, characterized in that the pendent fatty chains are linked directly to at least one of the nitrogen atoms of the amide units.

98. Process according to any one of Claims 86 to 97, characterized in that the weight-average molecular mass of the first

polymer ranges from 1000 to 100 000, preferably from 1000 to 50 000 and better still from 1000 to 30 000.

20 99. Process according to one of Claims 86 to 98, characterized in that the weight-average molar mass of the first film-forming

polymer ranges from 2000 to 20 000 and preferably from 2000 to 10 000.

100. Process according to one of Claims 86 to 99, characterized in that the terminal fatty chain(s) is (are) linked to the

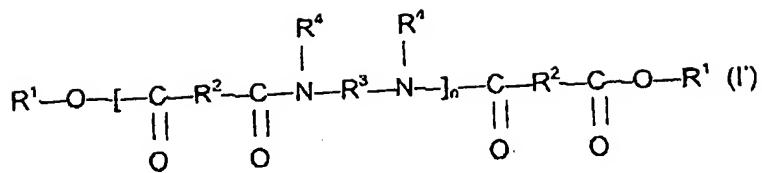
25 skeleton via bonding groups.

25 101. Process according to Claim 100, characterized in that the bonding groups are ester groups.

102. Process according to any one of Claims 86 to 101, characterized in that the fatty chains contain from 12 to 68 carbon atoms.

30 103. Process according to any one of Claims 86 to 102, characterized in that the first polymer is chosen from the polymers of

formula (I') below, and mixtures thereof:



in which n denotes a number of amide units such that the number of ester groups represents from 10% to 50% of the total number of ester and amide groups; R<sup>1</sup> is, independently in each case, an alkyl or alkenyl group containing at least 4 carbon atoms; R<sup>2</sup> represents, independently in each case, a C<sub>4</sub> to C<sub>42</sub> hydrocarbon-based group, on condition that at least 50% of the groups R<sup>2</sup> represent a C<sub>30</sub> to C<sub>42</sub> hydrocarbon-based group; R<sup>3</sup> represents, independently in each case, an organic group containing at least 2 carbon atoms, hydrogen atoms and optionally one or more oxygen or nitrogen atoms; and R<sup>4</sup> represents, independently in each case, a hydrogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group or a direct bond to R<sup>3</sup> or another R<sup>4</sup>, such that the nitrogen atom to which R<sup>3</sup> and R<sup>4</sup> are both attached forms part of a heterocyclic structure defined by R<sup>4</sup>-N-R<sup>3</sup>, with at least 50% of the groups R<sup>4</sup> representing a hydrogen atom.

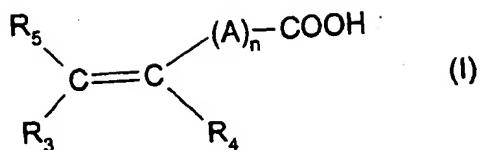
104. Process according to Claim 103, characterized in that R<sup>1</sup> is a C<sub>12</sub> to C<sub>22</sub> alkyl group.

105. Process according to Claim 103 or 104, characterized in that the radicals R<sup>2</sup> are groups containing from 30 to 42 carbon atoms.

106. Process according to any one of Claims 86 to 105, characterized in that the first polymer is present in a content ranging from 0.01% to 10% by weight, preferably ranging from 0.05% to 5% by weight and better still ranging from 0.1% to 3% by weight, relative to the total weight of the composition.

107. Process according to any one of Claims 86 to 106, characterized in that the anionic film-forming polymer is chosen from:

- polymers comprising carboxylic units derived from unsaturated monocarboxylic or dicarboxylic acid monomers of formula (I):



in which  $n$  is an integer from 0 to 10, A denotes a methylene group, and the symbol  $\Delta$  denotes the position of the unsaturated group or to the

5 in which n is an integer from 0 to 10, A denotes an atom or group which is  
optionally connected to the carbon atom of the unsaturated group or to the  
neighbouring methylene group when n is greater than 1 via a hetero atom  
such as oxygen or sulphur, R<sub>5</sub> denotes a hydrogen atom or a phenyl or  
benzyl group, R<sub>3</sub> denotes a hydrogen atom or a lower alkyl or carboxyl  
group, and R<sub>4</sub> denotes a hydrogen atom, a lower alkyl group or a  
—CH<sub>2</sub>-COOH, phenyl or benzyl group,

10 10. — polymers comprising units derived from sulphonic acid, such as  
vinylsulphonic, styrenesulphonic and acrylamidoalkylsulphonic units, and  
sulphonic polyesters, and  
- mixtures thereof.

15 108. Process according to any one of Claims 86 to 107,  
characterized in that the anionic film-forming polymer is chosen from:  
A) homo- or copolymers of acrylic or methacrylic acid or salts thereof,  
the sodium salts of copolymers of acrylic acid and of acrylamide, and the  
sodium salts of polyhydroxycarboxylic acids;

20 B) copolymers of acrylic or methacrylic acids with a monoethylenic  
monomer such as ethylene, styrene, vinyl esters and acrylic or methacrylic  
acid esters, optionally grafted onto a polyalkylene glycol such as  
polyethylene glycol; copolymers of this type comprising in their chain an  
optionally N-alkylated and/or hydroxyalkylated acrylamide unit, copolymer

25 of acrylic acid and of C<sub>1</sub>-C<sub>4</sub> alkyl methacrylate and terpolymers of  
vinylpyrrolidone, of acrylic acid and of C<sub>1</sub>-C<sub>20</sub> alkyl methacrylate;

C) copolymers derived from crotonic acid, such as those whose chain  
comprises vinyl acetate or propionate units and optionally other monomer  
such as allylic or methallylic esters, vinyl ether or vinyl ester of a saturated  
30 linear or branched carboxylic acid containing a long hydrocarbon-based

chain such as those comprising at least 5 carbon atoms, it being possible for these polymers to be optionally grafted;

- D) polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives, acrylic acid and esters thereof; copolymers of maleic, citraconic or itaconic anhydrides and of an allylic or methallylic ester optionally comprising an acrylamide, methacrylamide,  $\alpha$ -olefin, acrylic or methacrylic ester, acrylic or methacrylic acid or vinylpyrrolidone group in their chain, the anhydride functions are monoesterified or monoamidated;
- 5 10 E) polyacrylamides comprising carboxylate groups,
- F) deoxyribonucleic acid;
- G) copolymers of at least one dicarboxylic acid, of at least one diol and of at least one difunctional aromatic monomer bearing a group  $-\text{SO}_3\text{M}$  with M representing a hydrogen atom, an ammonium ion  $\text{NH}_4^+$  or a metal ion;
- 15 - and mixtures thereof.

109. Use according to any one of Claims 86 to 108,

characterized in that the anionic film-forming polymer is chosen from:

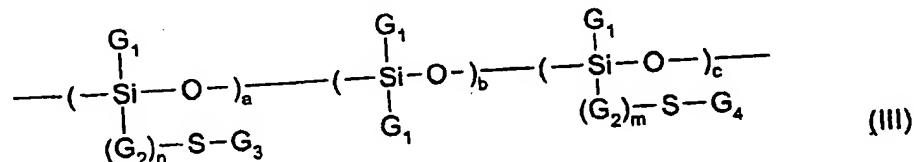
- acrylic or methacrylic acid homopolymers;
- acrylic acid copolymers such as the acrylic acid/ethyl acrylate/N-tert-butylacrylamide terpolymer;
- 20 - copolymers derived from crotonic acid, such as vinyl acetate/vinyl tert-butylbenzoate/crotonic acid terpolymers and crotonic acid/vinyl acetate/vinyl neododecanoate terpolymers;
- polymers derived from maleic, fumaric or itaconic acids or anhydrides with vinyl esters, vinyl ethers, vinyl halides, phenylvinyl derivatives or acrylic acid and esters thereof, such as methyl vinyl ether/monoesterified maleic anhydride copolymers;
- 25 - copolymers of methacrylic acid and of methyl methacrylate;
- copolymers of methacrylic acid and of ethyl acrylate;
- terpolymers of vinylpyrrolidone/acrylic acid/lauryl methacrylate;
- 30 - vinyl acetate/crotonic acid copolymers;
- vinyl acetate/crotonic acid/polyethylene glycol terpolymers;

- sulphopolymers obtained by condensation of diethylene glycol, cyclohexanedimethanol, isophthalic acid and sulfoisophthalic acid,
- and mixtures thereof.

110. Process according to any one of Claims 86 to 109,

5 characterized in that the anionic film-forming polymer is chosen from anionic polymers of grafted silicone type comprising a polysiloxane portion and a portion consisting of a non-silicone organic chain, one of the two portions constituting the main chain of the polymer, the other being grafted onto the said main chain.

10 111. Process according to Claim 110, characterized in that the grafted silicone polymer is chosen from silicone polymers whose structure comprises the unit of formula (III) below:



15 in which the radicals  $\text{G}_1$ , which may be identical or different, represent hydrogen or a  $\text{C}_1\text{-C}_{10}$  alkyl radical or alternatively a phenyl radical; the radicals  $\text{G}_2$ , which may be identical or different, represent a  $\text{C}_1\text{-C}_{10}$  alkylene group;  $\text{G}_3$  represents a polymer residue resulting from the

20 (homo)polymerization of at least one ethylenically unsaturated anionic monomer;  $\text{G}_4$  represents a polymer residue resulting from the (homo)polymerization of at least one ethylenically unsaturated hydrophobic monomer;  $m$  and  $n$  are equal to 0 or 1;  $a$  is an integer ranging from 0 to 50;  $b$  is an integer which can be between 10 and 350,  $c$  is an integer ranging from 0 to 50; with the proviso that one of the parameters  $a$  and  $c$  is other than 0.

112. Process according to Claim 111, characterized in that the unit of formula (III) has at least one of the following characteristics:

- the radicals  $\text{G}_1$  denote a  $\text{C}_1\text{-C}_{10}$  alkyl radical;

- $n$  is non-zero and the radicals  $G_2$  represent a divalent  $C_1-C_3$  radical;
- $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as an ethylenically unsaturated carboxylic acid;
- 5      -  $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least one monomer such as a  $C_1-C_{10}$  alkyl (meth)acrylate.

113. Process according to Claim 111 or 112, characterized in that the unit of formula (III) simultaneously has the following characteristics:

- the radicals  $G_1$  denote a methyl radical;
- $n$  is non-zero and the radicals  $G_2$  represent a propylene radical;
- $G_3$  represents a polymer radical resulting from the (homo)polymerization of at least acrylic acid and/or methacrylic acid;
- $G_4$  represents a polymer radical resulting from the (homo)polymerization of at least isobutyl or methyl (meth)acrylate.

114. Process according to any one of Claims 86 to 113, characterized in that the cationic film-forming polymer is chosen from quaternary cellulose ether derivatives, copolymers of cellulose with a water-soluble quaternary ammonium monomer, cyclopolymers, cationic polysaccharides, cationic silicone polymers, quaternized or non-quaternized vinylpyrrolidone-dialkylaminoalkyl acrylate or methacrylate copolymers, quaternary polymers of vinylpyrrolidone and of vinylimidazole, and polyaminoamides, and mixtures thereof.

115. Process according to any one of Claims 86 to 114, characterized in that the anionic film-forming polymer is a poly(sodium methacrylate).

116. Process according to any one of Claims 86 to 115, characterized in that the cationic film-forming polymer is a hydroxy( $C_1-C_4$ )alkylcellulose comprising quaternary ammonium groups.

117. Process according to any one of Claims 86 to 116, characterized in that the cationic film-forming polymer is present in a content ranging from 0.01% to 20% by weight, preferably from 0.01% to 15% by weight and even more preferentially from 0.05% to 5% by weight, relative to the total weight of the composition.

5 118. Process according to any one of Claims 86 to 117, characterized in that the anionic film-forming polymer is present in a

content ranging from 0.01% to 20% by weight, preferably from 0.05% to 15% by weight and even more preferentially from 0.1% to 7% by weight, relative to the total weight of the composition.

10 119. Process according to any one of Claims 86 to 118, characterized in that the fatty phase comprises at least one wax.

120. Process according to Claim 119, characterized in that the wax is chosen from the group formed by beeswax, lanolin wax, Chinese insect waxes, rice wax, carnauba wax, candelilla wax, ouricury wax, cork fibre wax, sugar cane wax, Japan wax, sumach wax, montan wax, microcrystalline waxes, paraffin waxes, ozokerites, ceresin wax, lignite wax, polyethylene waxes and the waxes obtained by Fisher-Tropsch synthesis, fatty acid esters of glycerides that are solid at 40°C, the waxes obtained by catalytic hydrogenation of animal or plant oils containing linear or branched C<sub>8</sub>-C<sub>32</sub> fatty chains, silicone waxes and fluoro waxes, and mixtures thereof.

121. Process according to Claim 119 or 120, characterized in that the wax is present in a content ranging from 0.1% to 50% by weight, preferably from 0.5% to 40% by weight and better still from 1% to 30% by weight, relative to the total weight of the composition.

25 122. Process according to any one of Claims 86 to 121, characterized in that the fatty phase comprises at least one oil chosen from

the group formed by hydrocarbon-based oils, fluoro oils and/or silicone oils of mineral, animal, plant or synthetic origin, alone or as a mixture.

30 123. Process according to any one of Claims 86 to 122, characterized in that the fatty phase comprises at least one volatile oil.

124. Process according to any one of Claims 86 to 123, characterized in that the fatty phase comprises a volatile oil chosen from hydrocarbon-based volatile oils containing from 8 to 16 carbon atoms.

125. Process according to Claim 123 or 124, characterized in that the volatile oil is present in a content ranging from 0.1% to 98% by weight and preferably from 1% to 65% by weight, relative to the total weight of the composition.

126. Process according to any one of Claims 86 to 125, characterized in that the composition comprises an aqueous phase containing water or a mixture of water and of water-miscible organic solvent.

127. Process according to any one of Claims 86 to 126, characterized in that the composition contains at least one additive chosen from dyestuffs, surfactants, thickeners, antioxidants, fillers, preserving agents, fragrances, neutralizers and cosmetic or dermatological active agents, and mixtures thereof.

128. Process according to any one of Claims 86 to 127, characterized in that the composition is in the form of a mascara, a product for the eyebrows or a product for the hair.

